

<b>Notice of Allowability</b>	Application No.	Applicant(s)
	10/002,748	SAITO, SATORU
	Examiner	Art Unit
	Andrew C. Lee	2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1.  This communication is responsive to 11/15/2001.
2.  The allowed claim(s) is/are 1-7.
3.  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a)  All b)  Some\* c)  None of the:
    1.  Certified copies of the priority documents have been received.
    2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3.  Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4.  A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5.  CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a)  including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1)  hereto or 2)  to Paper No./Mail Date \_\_\_\_\_.
  - (b)  including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6.  DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1.  Notice of References Cited (PTO-892)
2.  Notice of Draftsperson's Patent Drawing Review (PTO-948)
3.  Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date 11/15/2001
4.  Examiner's Comment Regarding Requirement for Deposit of Biological Material
5.  Notice of Informal Patent Application
6.  Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_.
7.  Examiner's Amendment/Comment
8.  Examiner's Statement of Reasons for Allowance
9.  Other \_\_\_\_\_.

**DETAILED ACTION**

***Allowable Subject Matter***

1. Claims 1 – 7 are allowed over prior art.

The following is an examiner's statement of reasons for allowance:

Regarding claim 1, the prior art of record, in single or in combination, does not disclose explicitly the limitation of  $M$  memory banks capable of being accessed simultaneously; and a data access unit for accessing said memory banks in each memory cycle having a predetermined length, according to a predetermined number  $N$  or less of read commands and write commands; a write requesting unit for dividing each reception packet into at least one data block according to a predetermined data length, and for issuing write requests for the respective data blocks; a write-bank selecting unit for selecting different memory banks in response to  $N+1$  consecutive write requests, respectively; a data writing unit for selecting, in each memory cycle, maximum  $N$  write requests from said write requests issued by said write requesting unit, the selecting being performed in issuance order, and for inputting, to said data access unit, a write command to the effect that each of data blocks corresponding to the selected write requests is to be written to said memory banks selected by said write-bank selecting unit; an address managing unit for managing information about said memory banks, and addresses of their storage areas where respective data blocks of each packet have been written; a primary read-bank selecting unit for receiving, in each memory cycle, read requests for  $N$  or less data blocks from said scheduler, and for selecting one or more memory bank(s) capable of being read in the same memory cycle from memory

banks in which the data blocks specified by the respective read requests are stored, based on said information stored in said address managing unit; a secondary read-bank selecting unit for storing a read request which has not been achieved in each memory cycle, the read request being among read requests received in the same memory cycle from said scheduler, and for selecting a memory bank corresponding to the stored read request in the next memory cycle; and a data reading unit for selecting a predetermined number  $L$  or less of read requests from said read requests for the memory banks selected by said primary and secondary read-bank selecting units, and for inputting, to said data access unit,  $L$  or less read commands to the effect that respective data blocks are to be read from the memory banks corresponding to said read requests.

2. Additionally, all of the further limitations in claims 2 – 7 are allowable since the claims are dependent upon the independent claim.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Chao et al. (US 6370144 B1) disclose congestion control and traffic management in networks and inter-networks operating at relatively high data rates and carrying information which may have differing quality of service (or "QoS") requirements.
- Herbst (US 6792500 B1) discloses a method and apparatus for managing defects in a memory, wherein the method includes the steps of testing a plurality of memory locations to determine an inoperable memory location and moving a memory address corresponding to the inoperable memory location to a first position in a list of available memory addresses.
- Wilford et al. (US 6687247 B1) disclose a line-card architecture for high speed routing of data in a communications device.
- Herbst et al. (US 6735679 B1) teach a method and apparatus for optimizing access to memory, wherein the method includes the steps of receiving a first request for access to a memory, receiving at least two additional requests for access to the memory, and determining a first clock overhead associated with the first request for access to the memory.

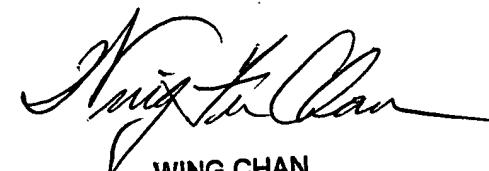
4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew C. Lee whose telephone number is (571) 272-3131. The examiner can normally be reached on Monday through Friday from 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wing Chan can be reached on (571) 272-7493. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ACL/

Jan 04, 2007



WING CHAN  
SUPERVISORY PATENT EXAMINER